

WHAT IS CLAIMED IS:

1. A disc stabilization system, comprising:
  - a spinning disc having a disc surface that is deflectable by a shock;
  - a gas layer spinning adjacent the disc surface;
  - a wing feature including an aerodynamic surface positioned proximate the gas layer, which generates an aerodynamic force on the disc surface;
  - and
  - a strut supporting the wing feature over the disc surface in a position such that the aerodynamic force increases as the disc surface deflects toward the aerodynamic surface.
2. The disc stabilization system of Claim 1 wherein the aerodynamic surface is supported by the strut to be less deflectable by the shock than the disc surface.
3. The disc stabilization system of Claim 1 wherein the aerodynamic force reduces a deflection of the disc surface due to the shock.
4. The disc stabilization system of Claim 1 wherein the disc surface deflects in an oscillatory motion due to the shock, and the aerodynamic force damps the oscillatory motion.
5. The disc stabilization system of Claim 1 wherein the spinning disc includes a second disc surface opposite the disc surface, and further comprises:
  - a second gas layer spinning adjacent the second disc surface;
  - a second wing feature including a second aerodynamic surface positioned proximate the second gas layer, which generates a second aerodynamic force on the second disc surface; and

a second strut supporting the second wing feature over the second disc surface such that the second aerodynamic force increases as the disc surface deflects toward the second aerodynamic surface.

6. The disc stabilization system of Claim 1 wherein the spinning disc includes a second disc surface opposite the disc surface, and further comprises:

a head flying over the second disc surface opposite aerodynamic surface.

7. The disc stabilization system of Claim 1 wherein the disc comprises a data storage medium.

8. The disc stabilization system of Claim 1 wherein the wing feature is shaped to provided a desired ground effect force on the disc surface.

9. The disc stabilization system of Claim 1 wherein the aerodynamic force reduces coning of the spinning disc.

10. A method of stabilizing a spinning disc, comprising:

spinning a disc that has a disc surface that is deflectable by a shock, thereby driving a gas layer adjacent the disc surface to spin;

providing a wing feature with an aerodynamic surface that interacts with the gas layer to generate an aerodynamic force on the disc surface; and

supporting the wing feature over the disc surface with a strut in a position where the aerodynamic force increases as the disc surface deflects toward the aerodynamic surface.

11. The method of Claim 10 further comprising:

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supporting the aerodynamic surface to be less deflectable than the disc surface.

12. The method of Claim 10 further comprising:

reducing deflection of the disc surface with the aerodynamic force.

13. The method of Claim 10 further comprising:

damping an oscillatory motion of the disc surface with the aerodynamic force.

14. The method of Claim 10 wherein the spinning disc includes a second disc surface opposite the disc surface, and the method further comprises:

spinning a second gas layer adjacent the second disc surface;

providing a second wing feature including a second aerodynamic surface positioned proximate the second gas layer, which generates a second aerodynamic force on the second disc surface; and

providing a second strut supporting the second wing feature over the second disc surface such that the second aerodynamic force increases as the disc surface deflects toward the second aerodynamic surface.

15. The method of Claim 10 wherein the spinning disc includes a second disc surface opposite the disc surface, and the method further comprises:

flying a head over the second disc surface opposite the aerodynamic surface.

16. The method of Claim 10 wherein the disc comprises a data storage medium.

17. The method of Claim 10 further comprising:

shaping the wing feature to provided a desired ground effect force.

18. The method of Claim 10 further comprising:

reducing coning of the spinning disc with the aerodynamic force.

19. A disc stabilization system, comprising:

a spinning disc having a disc surface that is deflectable by a shock;

a gas layer spinning adjacent the disc surface; and

means for interacting with the disc surface to provide an aerodynamic force to the disc surface that increases as the disc surface deflects toward the aerodynamic surface.

20. The disc stabilization system of Claim 19 wherein the disc comprises a data storage medium.

21. The disc stabilization system of Claim 19 wherein the means for interacting is shaped to provided a desired ground effect force on the disc surface.

22. The disc stabilization system of Claim 19 wherein the aerodynamic force reduces coning of the spinning disc.